DOCUMENT RESUME

ED 207 480 IR 009 382

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TITLE Authorities and Standards in a Changing World.
PUB DATE Aug 80
NOTE 23p.; Paper presented at the Annual Conference of the International Federation of Library Associations (Manila, Philippines, August 18-23, 1980). The appendix may not reproduce clearly due to poor print quality of the original.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Cataloging; *Databases; Global Approach; *Library Automation; Library Catalogs; Library Networks; *Library Standards; Online Systems; Subject Index Terms
IDENTIFIERS *Authority Control (Information); *University of Toronto Library Automation Systems

ABSTRACT

A comprehensive automated authority system in place as a part of an integrated database having the flexibility to produce any catalog format is proposed as a means of making the library catalog--whether manual or online--more responsive to comprehensive authority changes, including standards and practices, and more useful to the library patron as it provides for updating of access points. The increasing use of uncontrolled automated databases has tended to weaken authority control, despite the requirement for greater control necessitated by the computer's inability to easily accommodate variations in cataloging practice. Systems under development in Great Britain, the United States, and Canada, in particular the University of Toronto Library Automation Systems (UTLAS), are currently offering remedies for this problem. The main feature of the authorities format set by the Library of Congress is a control subfield which is used to indicate cataloging sources, cataloging rules used, type of explanatory notes, romanization or transliteration, relation with other subject terms, and type of reference. The most attractive feature of an automated authority system is its provision of automatic validation of headings or access points. UTLAS has already implemented such a system within a consortium of bibliographic agencies and several participating Canadian libraries. A bibliography lists 26 references and information on the UTLAS format is appended. (RAA)

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AUTHORITIES AND STANDARDS IN A CHANGING WORLD

By

Grace Bulaong

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AUTHORITIES AND STANDARDS IN A CHANGING WORLD

I A time of change

As we start a new decade, many libraries are being shaken by changes, if not being closed down. Those that survive have to justify their existence in the scramble for funds, much more so than before. We have faced and are still discussing certain issues: copyright and copying, fee for service, the ownership of bibliographic data bases, the role of commercial services, bibliographic utilities and libraries within the total information and communication system, to name a few. Changes are occurring imperceptibly in many areas because of these issues. Nowhere is change more evident in the profession as it is from the technical services end. But any change in the area affects the library in its institutional role as a purveyor of information, and ultimately public services or the user.

As the major key to bibliographic control of a collection, the catalogue is undergoing major changes. This paper is an attempt to show how the catalogue can continue to fulfill its basic functions and at the same time be more responsive to comprehensive authority changes through the use of automated authority systems.

A. The catalogue as an ever-changing tool

While the catalogue as an entity has been a semi-permanent file, it is in effect a surrogate for the collection itself which is constantly being added to and weeded. The degree of change varies with the type of library, the type of materials, the materials budget, personnel and a host of other factors.

For a long time, the catalogue as an entity has been in a card format that is really inflexible. While cards can be filed and withdrawn into a card catalogue, it does not take to long to realize that it can be a disadvantage. Catalogue format and size have prevented most cataloguing administrators of large libraries from making large scale retrpspective changes to bibliographic records. When a catalogue reaches a certain size and age, it exhibits a multiplicity of internal policies and practices, which could be puzzling and completely imcomprehensible to the clientele for whom records are produced in the first place.[1]

While the catalogue as an entity is in an inflexible format there are both internal and external changes in standards and practices, to which the catalogue has to respond.

B. Changing standards and practices

External cataloguing standards and practices undergo change in response to new modes of thinking and looking at the world as reflected in published materials. While they must change, they are changing more rapidly than before. Changes in editions of classfication, for example in the Dewey Decimal Classification, have been steady. So are subject headings in the Library of Congress list, but cataloguing rules are changing more rapidly for the Anlo-American world: 1908, 1949, 1967, 1978. Now with AACR 2 (Anglo-American Cataloguing Rules, 2nd edition), and LC (Library of Congress) catalogue closing, we are faced with a dynamic approach to bibliographic control, since by severing the ties to the old catalogues, more drastic changes can be made.

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I B. Changing standards and practices (continued...)

In authoriteis specifically, there have been changes in standards and practices. Use of successive entries for serials and corporate bodies were allowed only in AACR 1 [Rules 6D and 6B]. The practice for serials before then, changed from using the earliest title to the latest title with references or added entries from the later or earlier titles in A.L.A.* (1949) [Rule 6e]. For personal names the change is more drastic: from A.L.A.'s [Rule 3] strict adherence to one uniform heading referring to one distinct person, to AACR 1's [53B] use of non-distinct names for different persons and finally, to AACR 2's [22.2 C3] use of multiple pseudonyms for the same person. The use of multiple pseudonyms is significant. It is a departure from the Paris principles' use of a uniform heading for one person [6.1].[2] This is obviously giving way to the locational rather than the collocational function of the catalogue; the rationale being that these pseudonyms are more familiar to the user and would aid in locating an item. With cross references the facility is there to collocate or gather all the author's work, but it will take more effort to do so. From here it would not be too far to use just whatever form of personal name is used on the title page, and in fact some practicing cataloguers thik so, if the author has not been established, or is not checked in reference sources.

While subject headings are not covered by the cataloguing code, the principle of uniform heading for one subject is not necessarily followed in practice. In subject headings, files are split between old forms and new forms because of too much effort involved in changing cards with the old forms. Some libraries also do this in series added entries to reflect variation in form and treatment of series.

C. Automation and networking

While there is a considerable time lag between the availability of technology and its general adoption, we have reached a stage where after about two decades, automation in libraries is a fact of life. Automation and networking have caused major changes.

Automation in general has made communication and delivery of information faster. With electronic transmission, teletext, view-data, and cable television, we may be getting closer to the electronic library. There is also a proliferation of information data bases including bibliographic records and full texts.

The first operation to be automated in many libraries is circulation. Once the advantages of an automated circulation is realized, the demand for management statistics, automated serials control, on-line ordering and an on-line catalogue is not too far behind. But unless the machine readable records were full enough, the data base cannot be used for any purpose other than circulation without costly upgrading of the records. One specific example is

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*American Library Association Cataloging Rules for Autohor and Title Entries.

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I C. Automation and networking (continued...)

subject headings. If the records do not have subjects, it cannot fully function as an on-line catalogue. This is where cataloguing support systems containing full bibliographic records which could be manipulated for such multi-purposes, are superior even if they are generally more expensive to build than circulation data bases.

The advantage of automation is that it has given us the flexibility to change catalogue format from cards to book, COM* or on-line catalogue, without any additional effort. In fact, it costs more to file cards than to have the catalogue produced in COM and dispose or re-issue it any time. If the machine readable records have many of the fixed fields in the MARC** record, it is also possible to produce special lists.

No doubt, automation has shaken up numerous cataloguing operations. Every prodcedure, every policy, the organization structure, workflow, staffing--everything has to be re-examined in the light of the machine. The machine itself is causing some changes in our ways of doing things. A primary example is computer filing which is gaining acceptance in libraries using automated systems. There is also a question of the concept of main entries and how this will change in an on-line environment. The AACR 2 does not really face this issue because of lack of time to explore the use of sets of equal entries [0.5].[3]

The major effect of automation in technical services is that it allows for more current and direct access to cataloguing from national and other agencies. In an on-line interactive cataloguing environment, the records are available as soon as the weekly tapes from Library of Congress are loaded into the source data bases run by computer service bureaus. The printed National Union Catalogue is about three months behind when available for use, depending on postal delivery.

Aside form the source data bases, remote access terminals have made it possible to display and use instantly, contributed and original cataloguing records by other libraries which have not been available before. For the libraries which have published book or microform catalogues, their records are also accessible but not instantly.

Both source and contributed data bases are valuable for their currency and up-to-datedness. To enable readers to use materials as soon as possible is after all a basic function of any technical services operation. It is not possible to wait a long time for cataloguing copy from the national source agencies. Most often we have to opt for service and choose to catalogue originally even if it costs more; an old administrative conflict between cost and service. But, for the first time, it is possible to catalogue a book only once; to put in intellectual effort only once. Experience even in automated cataloguing has generally shown that it is still cheaper to adopt a record than

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*Computer Output Microform
**Machine Readable Cataloguing

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I C. Automation and networking (continued...)

to catalogue originally. For those libraries whose collections are not too unique, the percentage of records found in data bases could go as high as 80-90%. This is where the savings in automation lie. But more important than cost is the service implications of instant accessibility, not just for cataloguing but for the patron.

There is one drawback however; a price had to be paid for this currency of access. That price is the consequent deterioration of authority control in bibliographic records available from varied sources.

The whole process started even without use of automated cataloguing in libraries. In the Library of Congress, acceptance of corporate bodies established by other countries like Canada, the CONSER project and Cataloguing in Publication (CIP) all contributed to this deterioration of consistency. Also, in the printed National Union Catalogue, it is easy to visually see which records are the standard because the main entry is in bold-faced type, but this is not as apparent in the data base. While headings for automated records are manually checked in authority files, we have noticed a breakdown in the consistency of forms in headings used in MARC, because the MARC data base has no automated authority control. In Canada, we can have access to CANMARC, plus the cataloguing of about a hundred other libraries using the University of Toronto Library Automation Systems (UTLAS). Ohio College Library Center (OCLC) reflects this same problem, with cataloguing from about two thousand libraries.

It is indeed unfortunate that the major source agencies (except the National Library of Canada for Canadian Libraries) had no internal or comprehensive automated authority systems when bibliographic data bases were being developed. Obviously, we cannot anymore rely on the source data bases having standard authority forms. Time has to be spent in checking to ensure consistency. In effect, with automated cataloguing there is more current access to uncontrolled data bases, making authority work and maintenance of basic catalogue functions more difficult. There is a defineite connection between authority work and basic catalogue functions.

II Authority control basic to catalogue function and bibliographic control

A. Definitions of authority and bibliographic control

It is interesting to note that the word "control" is used in connection with both authority and bibliographic work. The reason is that both imply organization and a structure for imposing such organization. Authority control can be defined as the functions involved in establishing, maintaining and using authority files which contain authoritative forms of headings or access points

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II A. Definition of authority and bibliographic control (continued...)

used in bibliographic records.[4] To make sure that such a control is imposed, non-authoritative forms are included as cross references to the preferred forms, as well as links between related terms and earlier and later forms.

Bibliographic control on the other hand, means the coverage and extent of access to informational materials available in libraries, in government, private or commercial sources. To achieve control, a standardized system provided by cataloguing codes is needed to identify bibliographic items. It also assumes some organization to show the relationship among the bibliographic items included. It is in this latter aspect of bibliographic control that authority control is necessary to determine which bibliographic records can be attributable to an author or corporate body,[5] which are parts of a series or which becomes complex primarily because we are dealing not only with single-work authors or corporate bodies, or single works on particular subjects that nobody else will write about; but with several works with the same attribute, be it author or subject.

B. Catalogue functions

The Paris Principles of 1961 was not the beginning of cataloguing theory or the theory of bibliographic control. Certainly Panizzi, Cutter and Lubetzky are giants who have contributed to our understanding of the catalogue and its functions. The Paris Principles are notable because it was the first time that basic principles have been agreed to internationally. In these principles are imbedded the rationale for authority control.

The Paris rules are a rewording of Cutter's Objects of the catalogue except that they do not cover subjects.[6] In Rule 2.2 a) which states that "The catalogue should be an efficient instrument for ascertaining - which works by a particular author," lies the basis for authority work. Only by assembling all publications containing the works by an author in one spot can this catalogue function be fulfilled in an alphabetical catalogue. For them to be filed in one spot requires that only one authorized form for an author or a single uniform heading should be used. While this rule is strict with regards to personal names, it is not as strict with corporate bodies and serials. The above rule is different from A 2.1: "...whether the library contains a particular book" - which is only locational, whereas 2.2 a) is collocational.

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III Need for authroity control

A. In a manual environment

There are libraries with card catalogues that only attempt to give location, not collocational information. Obviously, for these libraries, authority control is not an issue. But for those libraries that try to gather all materials in the catalogue with the same attribute, be it author or any other person or corporate body associated with the work, series or subject, authority control is essential. If authority control is discarded to economize at the technical services end, what saving is realized there is at the expense of the public services end - the user has to spend more time finding what he wants.

In the manual card catalogue comprehensiveness or exhaustiveness of access is necessary because it is very time consuming to have to try different forms to find all the materials with a particular attribute. This would be true even in a catalogue for one particular library, or even for several libraries with one cataloguing agency. But, when a library is part of a network, the problem is compounded by haveing to reconcile forms used by other libraries.

These point up the levels of need for authorities. For those local libraries with no access to automated cataloguing data bases, internal consistency is more easily maintained. Once there is any dealing with other libraries in a network, some standardization or common agreement is needed even in a manual environment, but it is still possible to stick to local forms of name. Because libraries are considered part ot the total information system, each library is not self-sufficient, not even a network of libraries. To be part of a network necessitates conformity to a general standard, and less flexibility to accommodate different levels of local, regional and national authority needs.

B. In an automated environment

The use of uncontrolled automated data bases has led to the questioning of authroity control.[7] It is said that other catalogue formats like COM can easily be scanned and browsed. It may be true that the formats other than a card catalogue may lessen the need for full authority control. Slight variations in forms of names occurring at the end of a heading can still be scanned and recognized, but not variations at the beginning of the name as happens in a corporate body entered under place or under its own name. Nevertheless, more time is spent in scanning than if only one form is used for one person.

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III B. In an automated environment (continued...)

The on-line catalogue has this same capability for browsing and more: truncated and keyword access which can bypass control of subject headings and corporate names. It is also possible to do Boolean searches where the search is qualified by AND, OR, and NOT.

There is also a question as to how much recall is needed.[8] Is it true that majority of users do not want comprehensiveness or exhaustiveness? In at least one catalogue use[9] study done at the Metropolitan Toronto Library 31% of the respondents indicated that they used the catalogue to find "all the material the library has on a particular subject", and 8% "all the works by an author". Whether this is a typical phenomenon or not, we do not know. Many catalogue use studies have not explored the need for authorities. If comprehensiveness is not desired as a goal, there is less need for authority control. Are we in the profession working for an ideal that nobody wants? The answer to this would come from the users and would need to be studied further.

For subjects, there are in effect two basic approaches to the subject control of information. One is the controlled vocabulary approach as exemplified by the Library of Congress List of Subject Headings (LCSH) or Sears, generally used in libraries. As pointed out[10] the LCSH is a compromise to accommodate languages of various users. One weakness of LCSH or Sears is that they do not necessarily meet the needs of the specialist user. Bothe do not use specialist terminology nor do they go in depth into any subject because they are designed for the generalist. But they are standard, and they cover the whole range of knowledge. This generalist aspect may be an asset in dealing with the universe of knowledge.

The other approach is use of natural language or uncontrolled vocabulary found in many information data bases. Its advantage is that it is specialzed and it caters to the nedds of sepcialists. But, in this time of interdisciplinary studies, the weakness of specilization is also recognized. To reconcile specialist and generalist needs is a basic problem.

As far as subject searches are concerned, the fact that some of these data bases have resorted to thesaurus (controlled vocabularies) or enhanced descriptors instead of relying only on keywords within the text, or natural language, proves that the need has been felt. But, instead of constructing a universal thesaurus covering all fields (which is impossible), the possibility of using a vocabulary switching mechanism (VSS) is being investigated.[11]

With the hope that there would be widespread merging of information and bibliographic databases, the skills we have in using controlled vocabulary and full authority control can be applied to information

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III B. In an automated environment (continued...)

data bases, at the same time we can continue to use keywords from texts and Boolean searches. This is a better approach than eliminating control altogether because of a change in form of the catalogue to an on-line environment. This way we get the advantages of both the specialist and generalist approaches or controlled and uncontrolled vocabularies. Because of difficulties of semantics and specialized terminology, the next stage perhaps could be to try to get away from terminology altogether and use a classification similar to the Bibliographic System of Ordering.

In fact, in an automated bibliographic data base there is more need for authorities because the computer cannot accommodate the intricacies of our alphabetical catalogues and cannot tolerate variations in spelling. Automated control is much more needed in an automated environment. There is an effective second check for quality as cards are filed in a card catalogue, done before users consult the catalogue, which is not as easy to do on COM and on an on-line catalogue. Alphabetic machine filing of headings will result in slight variations of form filing near each other, depending on where the slight variations are, at the beginning or at the end of the character string. On the other hand, difficulty is encountered in machine filing of call numbers with symbols like folio, reference, film, etc. This can partly be solved by breaking down the call number field more finely so as to separate the call number from other locational or shelving symbols. In manual filing, a thinking human being will at least question if the symbols are ignored.

IV Automated authority systems

There is hope in remedying the problem of control. If automation has brought upon us this problem, it can also be used to solve it. Before we look at how automation can do this, it is worthwhile to look into recent authority developments. It is a curious fact that in searching through the literature, very little has geen written about authority work until the last five years. Cataloguers have always worked with authority files, but it is only recently that authority work has gained recognition. Its importance has not been questioned, but the main thrust of source bibliographic data bases was primarily bibliographic records.

A. Authority developments

The British computer system MERLIN[12] has an automated authority system which stores any heading or subheading only once in an index and achieves control by using cross references. Other countries like Mexico and Japan have some form of automated authorities.

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IV A. Authority developments (continued...)

In the United States, the New York Public Library has pioneered in the development of an automated authority system in mid 1970's. The Bell Laboratories Network also had a similar system but not performing the same function of controlling access points.[13]

Library of Congress started distributing subject heading tapes in 1976 and name authority records in 1978. Recently tapes have been distributed to prepare for AACR 2.[14] A retrospective name authority project that includes 104,000 name authority records already in the MARC data base, has been started. LC has also set up a cooperative automated name authority project with the U.S. Government Printing Office, the Texas State Library, the University of Texas at Austin, the University of Wisconsin and the Northwestern University. With all of this, LC hopes to have about half a million name authority records by January, 1981.

On the other hand, Council on Library Resources announced[15] recently a grant to the Research Libraries Group and the Washington Library Network to set up a nationwide authority file service.

Canada has gone farther in national authority development. It should be noted that the National Library of Canada has had an automated authority system linked to their bibliographic records since 1976.[16] A project called SHARAF (Shared Authority File) has been in existence since 1979. Preliminary meetings were held and a proposal sent out in 1978. The file now consists of about half a million authority records.

The University of Toronto Library Automation Systems which originally proposed the project, has already implemented an authority control sybsystem that is linked with its bibliographic system. One consortium and several Canadian libraries are participating in the project: British Columbia Union Catalogue, University of Alberta, Edmonton Public Library, the Metropolitan Toronto Library, Memorial University in Newfoundland and four libraries from Saskatchewan. The National Library is participating by authenticating Canadian author entries which they will include in their tape distribution service.

B. Authorities format

The authorities format as set by the Library of Congress[17] and adopted with modifications by the National Library of Canada[18] was generally followed by the University of Toronto Library Automation Systems.[19] Because of the nature of authority records, it is different from the bibliographic format.

III B. Authorities format

Aside from the different tagging in the 400, 500 and 600's the main feature of the authroities format is a control subfield w (attached Appendix) which is assigned to all heading fields. This subfield indicates cataloguing source, cataloguing rules or list used, type of explanatory note, romanization or transliteration, relation with other subject terms, type of reference (subject, names, etc. and invisible references).

Indication of cataloguing rules, romanization or transliteration will make for greater flexibility if print or output programs are made to select by these elements. It would then be possible to specifiy for an individual library what rules are preferred for print or display as long as that is indicated on the record. Every time new cataloguing rules are used, changes in form could be tagged and inputted or otherwise await changes made by the national source agencies. When print trains are generally available for non-Roman scripts, the system may be able to function the same way. The Anglo-American bias for corporate entries and place names can be eliminated by indicating language and an international authority system should provide the capability for identifying preferred language and switching by national agencies to that language for national use.

C. Features of the UTLAS automated authority system

The most attractive feature of an automated authority system is its provision of automatic validation of headings or access points. This validation is not completely fool-proof since the computer can only recognize similarities primarily by character comparison (even with normalized keys that eliminate punctuation). The computer cannot decide that in fact a heading refers to the same author unless a human being intervenes and makes the decision. Nevertheless, in cataloguing departments that try to produce an organized catalogue, authority work consumes an inordinate amount of time and any time saved in this area is helpful. By the time staff verify whether an author, editor, translation, series, etc. is in the catalogue or not, check the outside cataloguing sources (even a data base if the operation is automated), decide, type and file the cross references, if necessary, about half or more of the unit time in cataloguing is spent, depending on the size of the library's officaial catalogues and authority files.

The potential for time and therefore cost saving in automating authority work is greater than just putting cataloguing records in machine-readable form. This is definitely more evident in a library like the Metropolitan Toronto Library where the collection is so unique that acess to a cataloguing data base of 7½ million records (5½ of which are unique) has not increased the percentage of titles

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III C. Features of the UTLAS automated authority system (continued...)

found or already catalogued by more than 5%. The ideal of cataloguing a book only once does not hold true if the same books are not bought by different libraries. There is no economy of scale in this sense.

The possibility of using the same heading in an authority record is greater because there are not as many authors as there are books. If an authority work is shared as in SHARAF, with participants accessing a union authority file on-line , whatever is found as an authority record could be used by a participating library.

Related to cost is the reduction of authority record creation and elimination of individual file maintenance. For those libraries that maintain authroity control, there usually is a manual file of authority records. Relying on an on-line data base will eliminate keeping files in libraries of participating libraries in a cooperative effort such as SHARAF.

The other important feature is automatic updating. The larger a card catalogue, the more of a dinosaur it is, and the less flexible it becomes.[20] The Library of Congress is a prime example. In 1967, it had to resort to superimposition because of its huge card files. Even with its decision to close its catalogues, the same problem is found in their MARC file, leading to the use of tolerable headings. Clamor from libraries with huge card catalogues, has also influenced their decision to postpone AACR 2 implementation.[21]

In an automated authority system, the cross references and standard headings are recorded in machine-readable form and linked with the bibliographic records in which the headings are used. Any heading can be changed according to current cataloguing codes and terminology, by keying the change one time only, regardless of number of bibliographic records with that heading. With this system it is easy to change European War, 1914-1918 to World War, 1914-1918, to reflect currnet terminology. Similarly, any change from real name to pseudonym can be done without having to go back to the bibliographic records. This can be done because the headings in the bibliographic records are replaced by numbers representing headings in the authority file. When a heading in the authority record is changed, the bibliogrpahic records with that heading automatically reflect this change.

Note that the tremendous facility for change is the result of not having to go back to a manual file of records: the card catalogue. In a card catalogue, all the cards with the heading to be changed will have to be taken out, retyped and refiled. The larger the files the harder it is to make any change.

III C. Features of the UTLAS automated authority system (continued...)

The full potential for automatic validation and automatic updating can only be realized if the card catalogue, if any, is closed. There is no problem either with book or COM catalogues because any change that occurs between issues can be incorporated in the next issue. For an interactive on-line catalogue, the change is effected immediately.

The advantages of an automated authority system then, are obvious. Foremost is faster processing for patrons and more efficient reference access. Because authority work is a very time consuming part of the cataloguing process, any time saved in this area will lessen the time to get the books to the reader. As far as reference and location are concerned, time saved in these areas is more difficult to estimate but actual experience in dealing with an uncontrolled data base shows that it takes more time to determine which among many similar forms of headings is the one being sought.

An automated authority control system also minimizes editing or corrections of print products from the data base, because authority control is imposed on any output product. With authority control, all headings included in a product or alphabetic listing will contain only the standard form. There will be no variation becuase the form of heading found in one authority record is used in all the bibliographic records linked to it.

IV Conclusion

Behind all this, is an assumption that authorities are crucial to the collocation function of the catalogue and that that function has to be maintained. There is a gnawing doubt whether they would be as crucial in a totally interactive and on-line environment, but the efficiency of searching and location in an on-line environment is directly enhanced by authority control. As information data bases have shown, it is possible to get around the lack of authority control by the use of keywords, truncated and combined search keys or qualified searches using Boolean operators. But, what we are striving for is exhaustiveness. In searching information data bases, nobody knows what is being missed, because of lack of authority control.[22] There is also no way of knowing when to stop the search.

As we get more and more involved in automated bibliographic networks, authority control becomes more crucial rather than anachronistic. It is also crucial in universal bibliographic control because each country is responsible for controlling its national publishing output and establishin its own names. While it is a problem to establish national responsibilty for a peripatetic author, it is easier to establish national corporate bodies. This problem is being addressed by an IFLA Working Group on an International Authority System.[23] We should make use of the technology available to make the bibliographic systems better rather than follow the example of most of the so-called information data bases. (They are also bibliographic data bases but with abstracts or summaries using

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IV Conclusion (continued...)

citations of articles, papers, lectures, etc. Information retrieval should be called document reference or abstract retrieval.[24]) It is only now that the problem of standardization among data bases is being realized and discussed. There is lack of standard use of terminology across data bases: each data base uses its own list of descriptors or thesaurus.

It may also be that the need for authority control has not been emphasized because many of the early data bases were in highly specialized "hard" sciences. As the data bases contain more "soft" sciences and become more generalized, the need for authority control may be felt.

In a way, data bases are at a similar stage as libraries were when they were functioning by themselves without library networks. It is easy for them to be self sufficient especilly if they are dealing with a defined special subject area. Even then, to service such data bases intermediaries are needed to determine the search strategy to use. The need for standardization becomes apparent when several databases are being accessed. When the next stage of development is reached and there are data base networks and data base resource sharing,[25] the importance for authorities will be more apparent.

Therefore, to follow the example of information data bases would be a retrograde step. We have the technical capability with automated authority systems to use technology, instead of being overriden by it.[26] We can use it to enhance, rather than obliterate collocation or exhaustiveness, and adopt additional techniques from information data bases.

Now that we are faced with AACR 2 and the closing of the Library of Congress catalogue, it is not enough to change the catalogue format and have a COM catalogue. With no authority control, the catalogue will be doing less than the manual catalogue unless there are cross references. We should use technology to make catalogue use easier, rather than make it more difficult for the public. While an automated authority system cannot update descriptive cataloguing, it has the mechanism for updating access points for the reader.

If we have a comprehensive automated authority system in place as part of an integrated data base which has the flexibility to produce any catalogue format, we can serve the public better in spite of changing cataloguing codes and changing world view as shown by semantic shifts, in this constantly changing world.

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TAG NUMERIC	TAG MNEM.	DESCRIPTION ANY TAG PRECEDED BY A '+' IS A LOCAL USE TAG	NO. OF CHAR	MAN DATORY	NOT IN USE
***		ALL VARIABLE TAGS WILL CONTAIN A DATE IN THE FORM YYMMDD IMMEDIATELY FOLLOWING THE OCCURENCE COUNT AND PRECEDING $W IF $W IS PRESENT			
		VARIABLE CONTROL SUBFIELD $W ********** THE VARIABLE CONTROL SUBFIELD $W CONSISTS OF A MAXIMUM OF 8 CODES, WHOSE CHARACTER POSITIONS ARE INDICATED BY THE NUMERIC IDENTIFIERS 1-8. E.G. $W1B2C4A			
		1 = CATALOGUING SOURCE CODES BLANK = NOT SPECIFIED A = LC B = SAME AS 1219 OR 046 $A OR 040 $A C = UK MARC D = LAVAL (RVM) E = NLC S = AGENCY RESPONSIBLE FOR SEARS X = LC COOPERATIVE CATALOGUING (NLC ONLY) Y = OTHER NATIONAL LIBRARY (NLC ONLY) Z = OTHER LIBRARY			
		2 = RULES/NAMES BLANK = NOT APPLICABLE (NOT A NAME) OR NOT ASSIGNED (RECON) N = NOT ACCORDING TO ANY PARTICULAR RULES A = A.L.A. B = AACR 1967 - N. AMER. TEXT C = AACR 2 D = AACR 1967 - BRITISH TEXT E = NON-AACR 2 FORM; DECISION TO USE WITH AACR 2 U = UNKNOWN Z = OTHER			
		3 = RULES/SUBJECTS BLANK = NOT APPLICABLE (NOT A SUBJECT) OR NOT ASSIGNED (RECON) A = LC SUBJECTS B = CHILDREN'S LITERATURE (ANNOTATED CARD PROGRAM) C = NLM D = NAL (PRE-1972 HEADING) F = NLC-ENGLISH - CANADIAN LIST OF SUBJECT HEADINGS G = LAVAL (RVM)			

TAG NUMERIC	TAG MNEM.	DESCRIPTION ANY TAG PRECEDED BY A '+' IS A LOCAL USE TAG	NO. OF CHAR	MANDATORY	NOT IN USE
***		E = OTHERS			
		H = HENNEPIN COUNTY LIBRARY			
		S = SEARS			
		T = CANADIAN SUPPL. TO SEARS			
		U = UNKNOWN			
		4 = TYPE OF EXPLANATORY TRACING			
		BLANK = NOT APPLICABLE			
		A = EARLIER NAME			
		B = LATER NAME			
		D = ACRONYMS			
		E = INFORMATION CARD			
		F = MUSICAL COMPOSITION			
		G = FULL NAME			
		H = REAL NAME			
		I = REAL NAME (REPUTEDLY)			
		J = NAME ORIGINALLY			
		K = NAME IN RELIGION			
		L = SECULAR NAME			
		M = STAGE NAME OF			
		O = VARIANT NAME			
		P = ABBREVIATED NAME			
		Q = OFFICIAL NAME			
		Z = REFERENCE INSTRUCTION PHRASE IN $I SUBFIELD OF 4XX,5XX			
		5 = ROMANIZATION/TRANSLITERATION CODE			
		BLANK = NOT ROMANIZED			
		A = AMERICAN LIBRARY ASSOCIATION CAT. RULES			
		B = LAROUSSE C = ISO			
		D = TRANSLATION E = OTHER TRANSLIT. TABLES			
		A THREE CHARACTER ALPHABETIC CODE CAN BE USED TO INDICATE THE SPECIFIC LANGUAGE TABLE WITHIN THE ROMANIZATION SCHEME IDENTIFIED IN THE PREVIOUS CHARACTER POSITION			
		6 = RELATOR TERMS (SUBJECTS)			
		BLANK = NOT APPLICABLE			
		A = RELATED TERM			
		B = BROADER TERM			
		C = NARROWER TERM			
		7 = TRACING USE INDICATOR			
		BLANK = NOT APPLICABLE			
		A = APPROP. FOR USE IN NAME AUTH. REFERENCE STRUCTURE			
		B = APPROP. FOR USE IN SUBJECT AUTH. REF. STRUCTURE			

APPENDIX

TAG		INDIC.		SUB-FLD.	DESCRIPTION ANY TAG PRECEDED BY A '+' IS A LOCAL USE TAG	NO. OF CHAR	MAN DATORY	NOT IN USE
NUMERIC	MNEM.	1	2	CODE				
***					C = APPROP. FOR USE IN SERIES AUTH. REFERENCE STRUCTURE			
					D = APPROP. FOR USE IN BOTH NAME AND SUBJECT AUTH. REFERENCE STRUCTURES			
					E = APPROP. FOR USE IN BOTH NAME AND SERIES AUTH. REFERENCE STRUCTURES			
					F = APPROP. FOR USE IN BOTH SUBJECT AND SERIES AUTH. REFERENCE STRUCTURES			
					G = APPROP. FOR USE IN NAME, SUBJECT, AND SERIES AUTH. REFERENCE STRUCTURES			
					8 = REFERENCE SUPPRESSION INDICATOR			
					BLANK = NOT APPLICABLE			
					A = INVISIBLE REFERENCE			
					B = DO NOT GENERATE FROM THIS TRACING			
					C = NOTE ONLY GENERATED FROM TRACING (NLC ONLY)			
					X = BILINGUAL REFERENCE (5XX TAG)			